REMARKS
OBJECTIONS TO THE SPECIFICATION

The Abstract was objected to for informalities and has been appropriately amended. The Specification was objected to as failing to provide proper antecedent basis for claim 14. Paragraph [0059] of the Specification provides adequate antecedent basis for computer readable storage medium, as claim in claim 14. Applicant also notes that MPEP § 608.1(o) states that Applicant "is not limited to the nomenclature used the application as filed." Furthermore, claim 14, as objected to, is an original claim that had not been previously amended. The "antecedent basis" notes in MPEP § 608.1(o) relate to claims that have been amended.

CLAIM OBJECTIONS

Claims 33 was objected to because of informalities. Claim 33 has been cancelled, rendering any issues moot.

REJECTIONS UNDER 35 U.S.C. § 101

Claims 14-19 and 48-50 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Claims 14-19 have been amended to recite a computer readable storage medium, which necessarily excludes carrier waves and propagation media. Claim 48 has been amended to recite a memory. In view of the amendments, Applicant submits claims 14-19 and 48-50 are statutory under § 101.

REJECTIONS UNDER 35 U.S.C. § 112

Claims 1-19, 29, 37, 39 and 46 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicant has made various

amendments and claim cancellations involving claims 1-19, 29, 37, 39 and 46. For those

claims that have not been cancelled, Applicant submits the claims are definite in view of

the amendments.

REJECTIONS UNDER 35 U.S.C. § 102

Claims 20-21, 26-28 and 34 were rejected under 35 U.S.C. § 102(e) as being

anticipated by U.S. Patent Application Publication No. 2003/0115428 to Zaccarin

(*Zaccarin*). Claims 20-21, 26-28 and 34 have been cancelled, rendering the rejection of

these claims moot.

REJECTIONS UNDER 35 U.S.C. § 103

Claims 1, 5-9, 11-14 and 16-19

Claims 1, 5-9, 11-14 and 16-19 were rejected under 35 U.S.C. § 103(a) as being

unpatentable over U.S. Patent No. 7,185,070 issued to Paul et al. (*Paul*) in view of

Zaccarin. Claims 5-6, 8-9 and 16-17 have been cancelled, rendering the rejection of

these claims moot. Applicant submits the remaining claims are not obvious in view of

Paul and *Zaccarin* for at least the reasons set forth below.

Claim 1 recites, in part, the following:

> monitoring a state of an application running in a system, including
> monitoring one or more buffers associated with the application;
> monitoring a machine state of the system, including determining
> the availability of configurable hardware components in the system,
> wherein the configurable hardware components include at least a
> processor and a buffer;
> coordinating dispatch of one or more threads in the system at least
> in part to increase execution overlap, wherein at least one thread is
> associated with the application;

> dynamically adjusting one or more of the frequency or the voltage applied to the processor based at least on the state of the application and the state of the one or more threads; and
>
> > dynamically adjusting the buffer size based at least on the state of the application and the state of the one or more threads in the system.

As amended, claim 1 recites coordinating dispatch of threads to increase execution overlap and dynamically adjusting the frequency and/or the voltage applied to the processor based on a state of the application. Both of these actions serve to reduce energy consumption (i.e., conserve energy) with little or no impact on system performance. For example, by overlap busy cycles of one logical processor with those of another logical processor, resources may be conserved. Also, when an uncompressed frame buffer level is high (e.g., nearing overflow), then there is little need for CPU resources. Thus, the frequency and/or voltage applied to the processor can be dynamically reduced while the buffer level is high. This reduction conserves energy when the energy is not needed. Conserving energy is particularly important for mobile devices, laptops, etc.

In connection with coordinating dispatch of threads and dynamically adjusting frequency and/or voltage applied to the processor, Applicant claims dynamically adjusting a buffer size based on the state of the application and the state of the one or more threads. For example, if in response to an adjustment of the frequency or voltage applied to the processor, the buffer begins to fill up more quickly, the buffer size can be dynamically adjusted (e.g., increased) to accommodate more instructions. The Office action does not assert that the cited references disclose such limitations and Applicant submit such limitations are not found in the cited references. Accordingly, Applicant submits independent claims 1 and 14 are not obvious in view of the cited references.

Applicant further submits the rejected dependent claims are not obvious for at least the same reasons claims 1 and 14 are not obvious.

Claims 2-4, 10, 15, 22-25, 29-33, 35-50

Claims 2-4, 10, 15, 22-25, 29-33, 35-50 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Zaccarin*, and further in view of various other cited references: specifically, claims 2-4 and 15 in view of *Paul* and *Kling*; claim 10 in view of *Paul* and *Jain*; claims 22-25, 29-31, 33, 35-38 and 48-50 in view of *Kling*; claim 32 in view of *Kling* and *Jain*; claims 39 and 41-43 in view of *Jain*; claim 40 in view of *Jain* and further in view of *Kling*; claims 44-47 in view of *Kling* and *Peter*. Applicant notes that the examination of the claimed invention and the application of these numerous references is a significant task; Applicant thanks the Examiner for the thorough examination and the thorough analysis of the references.

Applicant respectfully submits that these claims are not rendered obvious by the cited references for at least the following reasons. Each of the rejections made above is based on the application of *Zaccarin* and *Kling*, shown above to be defective with respect to the independent claims from which each of the above-listed dependent claims depends. The cited references do not cure the deficiencies noted above with respect to the independent claims. Applicants respectfully submit that a prima facie case of obviousness under MPEP § 2143 has not been established with respect to the independent claims, at least for failing to establish that the cited references disclose every element of the claimed invention. Because the independent claims are nonobvious, the dependent claims are also nonobvious.

CONCLUSION

For at least the foregoing reasons, Applicant submits that the rejections have been overcome. Therefore, claims 1-4, 7, 10-15, 19, 39-41 and 44-50 are in condition for allowance and such action is earnestly solicited. The Examiner is respectfully requested to contact the undersigned by telephone if such contact would further the examination of the present application.

Please charge any shortages and credit any overcharges to our Deposit Account number 02-2666.

Respectfully submitted,
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I hereby certify that this correspondence is being submitted electronically via EFS Web on the date shown below.

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